

REMARKS

The present application was filed on September 23, 2003 with claims 1-21. Claim 21 has been amended, and claims 5, 6, 15 and 16 have been cancelled without prejudice. Claims 1-4, 7-14 and 17-21 are pending and claims 1, 11, and 21 are the pending independent claims.

In the outstanding final Office Action dated August 24, 2006, the Examiner: (i) rejected claims 1-3, 7-13, and 17-21 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,890,150 to Ushijima et al. (hereinafter "Ushijima") in view of U.S. Patent No. 6,519,604 to Acharya et al. (hereinafter "Acharya"); and (ii) rejected claims 4 and 14 under 35 U.S.C. §103(a) as being unpatentable over Ushijima in view Acharya and U.S. Patent Application Publication No. 2003/0167259 to Casson et al. (hereinafter "Casson").

With regard to the rejection of claims 1-3, 7-13 and 17-21 under 35 U.S.C. §103(a) as being unpatentable over Ushijima in view of Acharya, Applicants respectfully assert that, the cited combination fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a), as specified in M.P.E.P. §2143, in that the cited combination fails to teach or suggest all the claim limitations of the amended independent claims. For at least this reason, a prima facie case of obviousness has not been established.

Independent claim 1 recites a method of rewriting a query during a database query processing operation. The query, having one or more target attributes, is processed in accordance with at least a portion of the data set, producing query results. The one or more target attributes and one or more auxiliary attributes from the query results are analyzed. The query is appended with at least one new predicate that corresponds to at least one of the one or more auxiliary attributes. Independent claim 11 recites an apparatus having similar limitations. Independent claim 21 recites an article of manufacture having similar limitations.

The Examiner argues that Ushijima teaches the steps of processing the query having one or more target attributes in accordance with at least a portion of a data set producing query results; and analyzing the one or more target attributes and one or more auxiliary attributes from the query results. Applicants assert that Ushijima fails to disclose database processing as recited in the independent claims of the present invention. Ushijima utilizes a method in which random sampling

is introduced in query processing, and feature quantity and regularity are estimated from the randomly sampled data to reduce the data quantity to be processed. See Ushijima, col. 1, lines 51-55. Ushijima processes a query with a random sampling component. After query results are obtained, the query result is evaluated according to a query result evaluation criterion that was generated when the query was first processed, in order to determine whether to continue the database search. See Ushijima, col. 6, lines 20-24.

Ushijima fails to disclose the analysis of target or auxiliary attributes. Ushijima compares the query result to a query result evaluation criterion, and provides no in-depth analysis of the query result attributes. Therefore, Ushijima fails to disclose the analysis of one or more target attributes and one or more auxiliary attributes from the query results, as recited in independent claims 1, 11 and 21.

The Examiner further argues that Acharya discloses the step of rewriting a query. Applicants respectfully disagree. Acharya's method of appending queries requires the use of pre-processed database information. Acharya, col. 11, lines 14-17 and 24-36. Acharya's invention relies on database statistical summaries for probabilistic error/confidence bounds. These probabilistic error/confidence bounds are appended into the database queries, inputted by the user. The rewritten queries are then used for database processing. Acharya fails to disclose the appending of the query with at least one new predicate corresponding to at least one of the one or more auxiliary attributes, as recited in independent claims 1, 11 and 21. Acharya makes no mention of adding new predicates corresponding to auxiliary attributes.

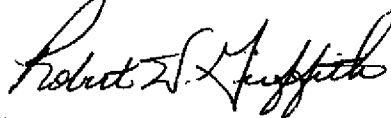
Neither Ushijima nor Acharya teach the method of analyzing target and auxiliary attributes of query results. Furthermore, neither Ushijima nor Acharya teach the method of appending the query with a new predicate corresponding to an auxiliary attribute thereafter. Thus, the combined teaching of Ushijima and Acharya fails to teach or suggest all the claim limitations of the independent claims.

Dependent claims 2-3, 7-10, 12-13 and 17-20 are patentable at least by virtue of their dependency from claims 1 and 11, and also recite patentable subject matter in their own right. Accordingly, withdrawal of the §103(a) rejection of claims 1-3, 7-13 and 17-21 is respectfully requested.

With regard to the rejection of claims 4 and 14 under 35 U.S.C. §103(a) as being unpatentable over Ushijima in view of Acharya and Casson, Applicants respectfully reassert that the cited combination fails to teach or suggest all the claim limitations, as stated above. Applicants assert that although Casson mentions sampling databases every Nth record, Casson fails to remedy the deficiencies of Ushijima and Acharya described above with respect to the independent claims. Therefore, the combination of Ushijima, Acharya and Casson fails to disclose the analysis of target attributes and auxiliary attributes, as well as the appending of a query with at least one new predicate that corresponds to an auxiliary attribute. Accordingly, due to the dependence of claims 4 and 14 on independent claims 1 and 11 respectively, and because claims 4 and 14 recite patentable subject matter in their own right, withdrawal of the §103(a) rejection of claims 4 and 14 is respectfully requested.

In view of the above, Applicants believe that claims 1-4, 7-14 and 17-21 are in condition for allowance, and respectfully request withdrawal of the §103(a) rejections.

Respectfully submitted,



Robert W. Griffith
Attorney for Applicant(s)
Reg. No. 48,956
Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560
(516) 759-4547

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